Vol. 30 FEBRUARY, 1944 No. 2

American Journal of Orthodontics and Oral Surgery

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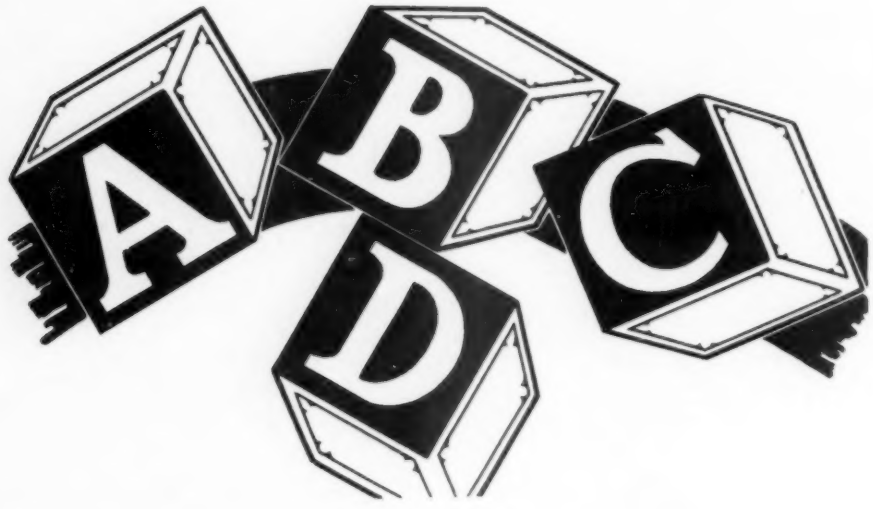

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FEBRUARY, 1944

Orthodontics

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American
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VOL. 30 FEBRUARY, 1944 No. 2

Original Articles

A CASE REPORT OF THE PRACTICAL APPLICATION OF THE THEORY AND TECHNIQUE OF THE JOHNSON TWIN-WIRE APPLIANCE

AUBREY P. SAGER, D.D.S., PHILADELPHIA, PA.

FOREWORD

THIS report embodies the technique and theory of the twin-wire appliance contributed to orthodontic practice by Dr. Joseph E. Johnson of Louisville, Kentucky.

The twin-wire technique enjoys an important place in my practice. I do not profess to use it exclusively, since I employ many variations and combinations of appliances when I deem it expedient, provided a gentle continuous stimulation is basically present. However, I have treated many cases exclusively with the twin-wire appliance and the satisfactory results unquestionably merit its use.

The case under discussion has been carefully chosen because of a possible inherited disharmony between the amount of bony structure and tooth structure in the maxilla. As my judgment ripens through years of practical experience, I am more and more inclined to treat such disharmony cases by means of the removal of one or more of the permanent teeth, according to the requirements of the individual case. Nevertheless, I do not want to go on record as entertaining this concept for the sole purpose of expediting treatment.

I, for one, cannot conceive how satisfactory and lasting results can be obtained without the judicious removal of teeth in some extreme instances.

The essayist has seen too many cases dangerously treated over long periods of time, with detrimental conditions due to "overshooting," so to speak, the biologic limit of the individual case. These detrimental results are manifested functionally, physically, and esthetically.

Read before the New York Society of Orthodontists, Nov. 9, 1943.

CASE REPORT

1. *General Facts.*—H. T., female, 13 years of age, Case No. 915.

2. *Diagnosis.*—Angle classification, Class II. Lischer classification, distoclusion. Apical canine constriction of maxilla. Possible hereditary disharmony between bony and tooth structures of maxilla. Supraclusion of the anterior teeth.

3. *History and General Clinical Picture.*—Patient enjoyed good health. Proper dental care. Metabolic conditions apparently satisfactory. No deformities. Average juvenile diseases. Tonsils removed at an early age. No adenoid interference. Full nasal breathing. Full complement of teeth, third molars unerupted. Good posture. Well-developed and active body. Good parentage. All conditions lead one to assume a good endocrine balance.

4. *Etiology.*—In my opinion the heredity factor is unquestionably of strong influence in this case. The patient, her mother, father, and sister are all noticeably of a small bone development. A definite maxillary apical canine constriction exists, presenting a disharmony between bony and tooth structures. By this token all members of this family appear "toothy." The case of the patient's younger sister is more extreme and she is being treated at present along the same general line. Further causative factors may be mentioned, such as supraclusion of the anterior teeth associated with a pernicious habit of forcing the lower lip against the lingual surface of the protruded maxillary lateral incisors. The resting of the chin in the palm of the hand was indulged in to a certain degree. There was also the possibility of the improper functioning of the mandible in distoclusion position accentuated by the muscles of mastication. This condition often results in a progressive malocclusion.

I am inclined to assume that all of the aforesaid contributing causes and possibly others tend to reshape the maxillary arch from the accepted U pattern to a more or less V pattern. This places the mandibular arch at a mechanical disadvantage, necessitating it to accept a more distal relation to the V-patterned maxillary arch when articulated. The end result is a progressive distoclusion relationship such as this case presents.

Fortunately, the associated factors of mouth breathing and thumb-sucking were absent, otherwise a more complicated malocclusion accompanied by infraclusion of the anterior teeth (commonly called open-bite) might have occurred.

5. *Plan of Treatment.*—A case cannot be justly treated unless properly diagnosed and analyzed. First, a careful study of the case should be made in order to become acquainted with the patient from all angles, such as facial muscle tone and actions, breathing and talking actions and habits, and general physical developments. At this time the oral cavity should be carefully and fully observed and all findings of diagnostic value recorded. The patient or parent, or both, should be questioned to ascertain required information. X-rays and impressions should be obtained and properly filed.

At a subsequent appointment, it is my policy to have a thorough consultation with one or both of the parents, at which time a comprehensive outline of the case, treatment, conditions, and fees are explained to the satisfaction of all.

I emphasize, during the consultation with the parent, the paramount necessity and value of cooperation of the patient during the time of both active and passive treatment. By cooperation I mean not only to avoid abuse of the appliances and to keep the mouth in a clean and healthy condition, but also the importance of following any myofunctional therapy that is prescribed. I rate the value of cooperation as at least 50 per cent of the treatment, and during the entire treatment period, I emphasize this factor to the patient directly. The treatment of this specific case was as follows:

Examination date, April 30, 1937.

Treatment started, Aug. 12, 1937.

Active treatment extended over approximately one year, and passive treatment, embracing the retentive stage, extended over approximately a six-month period. The entire orthodontic treatment covered a period of one and one-half years.

The final models, shown in this report, were made four and one-half years after orthodontic treatment was completed.

All appliances are made directly in the mouth; therefore, I do not lay heavy stress on model construction. Nevertheless, I strive for neatness in model and appliance construction. Models are important for original recordings and to refresh one's mind as to abnormalities as the case progresses.

Fig. 1.

In this case I recommended the extraction of the maxillary first premolars, as indicated by *X* on Fig. 1 (original models).

Note the supraclusion of the anterior teeth. The spacing between the incisors was caused by the plaster cast being sawed to permit the placing of bands on the teeth for demonstration purposes in this report. There is a slight linguoversion of the maxillary central incisors and a considerable rotation of the lateral incisors.

Fig. 2 shows palatal view of original model of maxillary arch.

Fig. 3 shows right side view of original model.

Fig. 4 shows left side view of original model.

Fig. 5 shows occlusal view of original model of mandibular arch.

Molar bands of platinized gold were tailored to fit the four first molar teeth. These bands carried attachments for maxillary labial and lingual arches and a mandibular lingual arch.

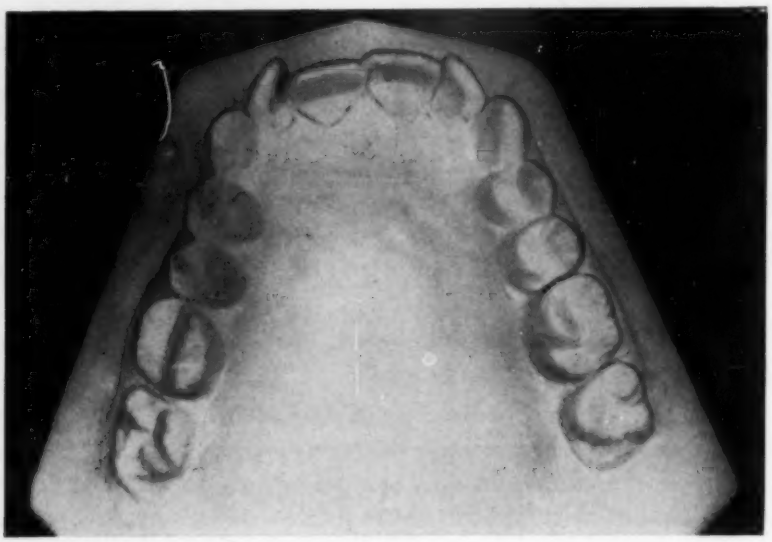

Fig. 2.

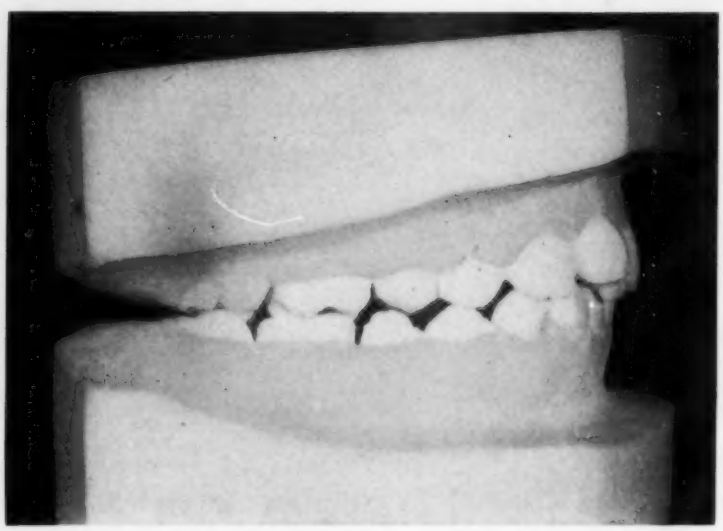

Fig. 3.

Great care must be exercised in the alignment of the right and left maxillary buccal tubes so they will be on the same horizontal plane. I solder the buccal tubes, of 0.036 inside diameter, on by hand, then seat the bands on the molar teeth in the mouth and pass a 6 inch length piece of stainless steel end tubing, 0.035 outside diameter, into each buccal tube, allowing the free ends to protrude out of the mouth, as can be seen in Figs. 6 and 7.

If both buccal tubes are correctly aligned, the two 6 inch end tube gauges will contact each other at the point where they cross as they converge anteriorly. If they do not touch at the point of crossing, it is necessary to remove one molar band and reset the tube position. It requires but little experience to realign the buccal tubes to a satisfactory position, especially for operators who are accustomed to making appliances directly in the mouth. Of course, there are other methods employed, both simple and complicated, for this important operation of buccal tube alignment. However, I have obtained satisfactory results by the method just explained.

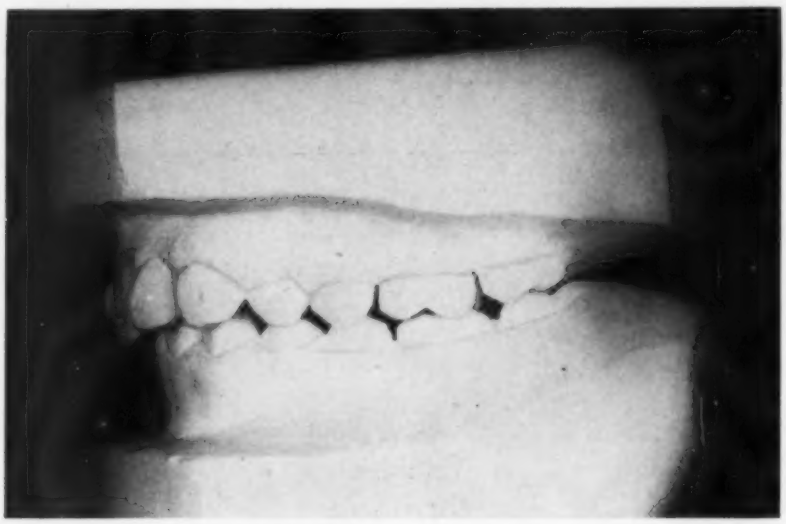

Fig. 4.

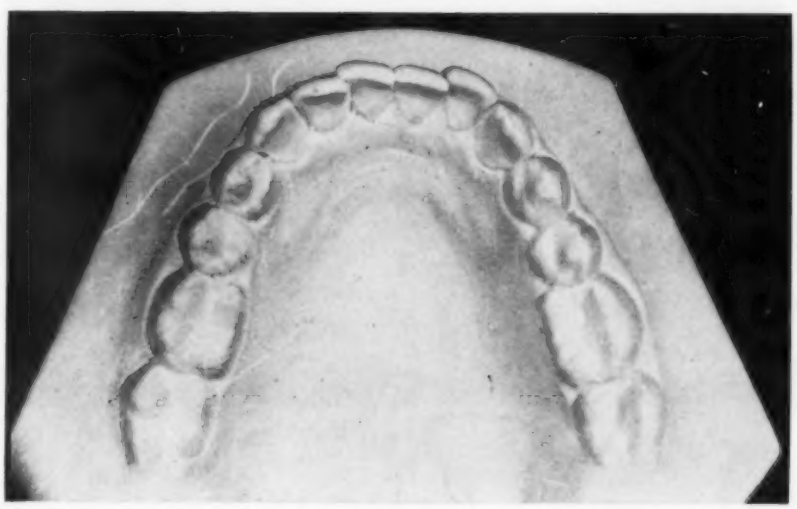

Fig. 5.

Johnson anterior channel bands were then fitted and cemented to the maxillary central, lateral, and canine incisors.

The technique of fitting incisor bands has been published and clinics given to such an extent that I will not dwell upon it in detail. However, the selected

band is burnished around the labial surface, pulled taut at the lingual surface, then pinched and soldered. Excess material is cut away and the seam smoothed with a disc. The Johnson anterior bands make a fine looking and good fitting band in record time of operating.

In Fig. 8 you will notice that the maxillary buccal tubes are placed in an anterior-upward position. This is the correct position of the maxillary buccal tubes in cases of supraclusion of the anterior teeth.

Fig. 6.

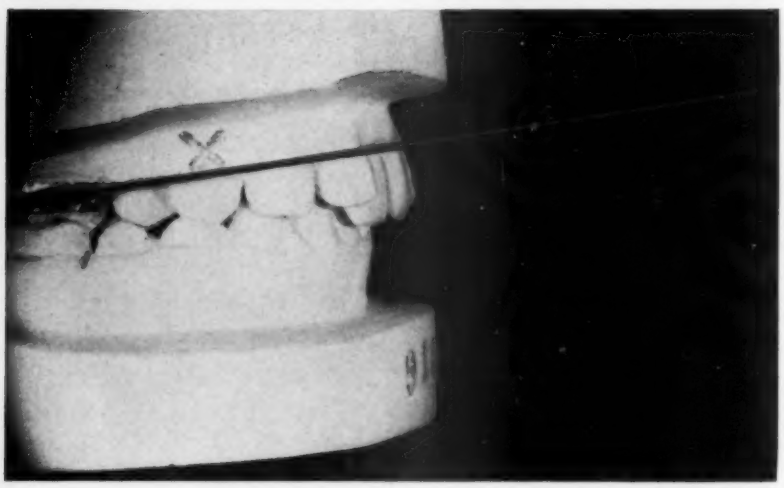

Fig. 7.

Fig. 9 shows that when the arch is placed in the buccal tubes, the anterior segment lies at rest above the incisor band channels. The twin-wire arch is constructed by pulling two 0.010 stainless steel hard wires through $1\frac{1}{16}$ inch end tubes of 0.035 outside diameter stainless steel. The ends of the wires are kinked to enable them to remain firm in the end tubes by virtue of friction. It can be readily seen that a gentle depressing movement will be gained when the twin-wire arch is locked securely in channels, aiding in the reduction of the supra-

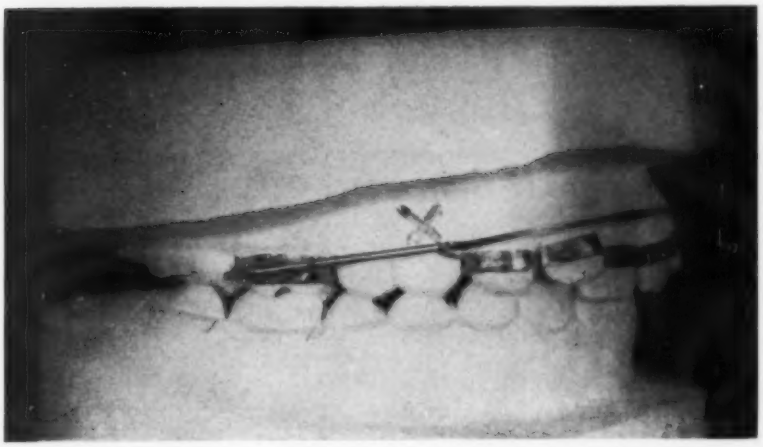

Fig. 8.

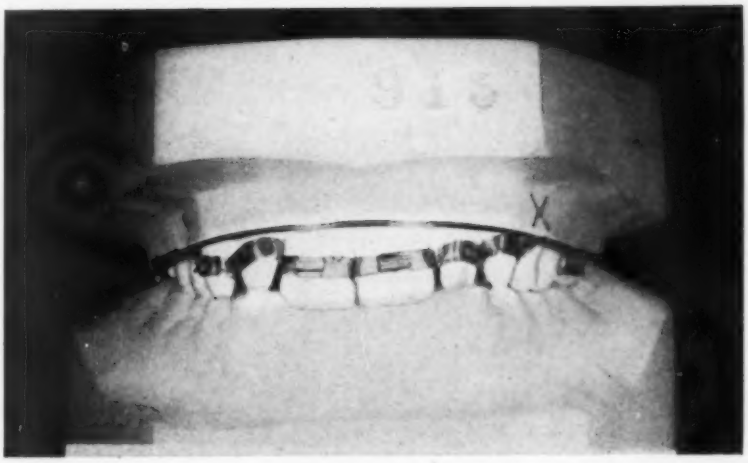

Fig. 9.

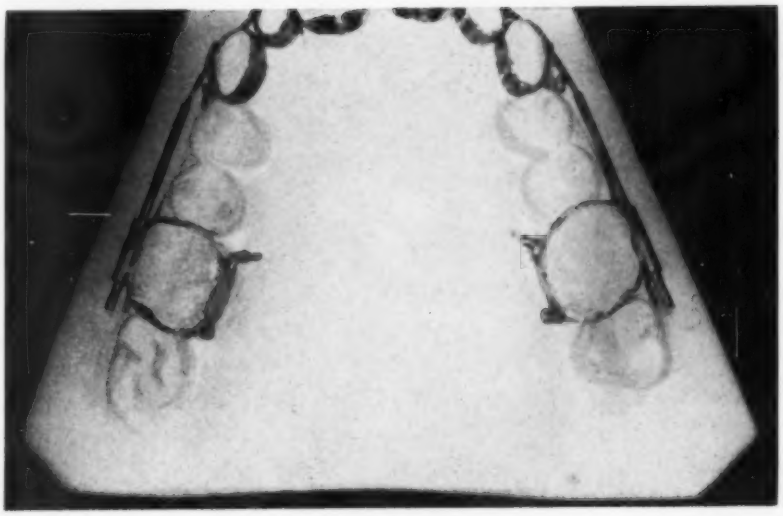

Fig. 10.

clusion condition. May I digress and explain that, by the same token, the reverse alignment and relation of the arch wire to the anterior bands is applicable in cases of infraclusion of the anterior teeth (the so-called open-bite cases).

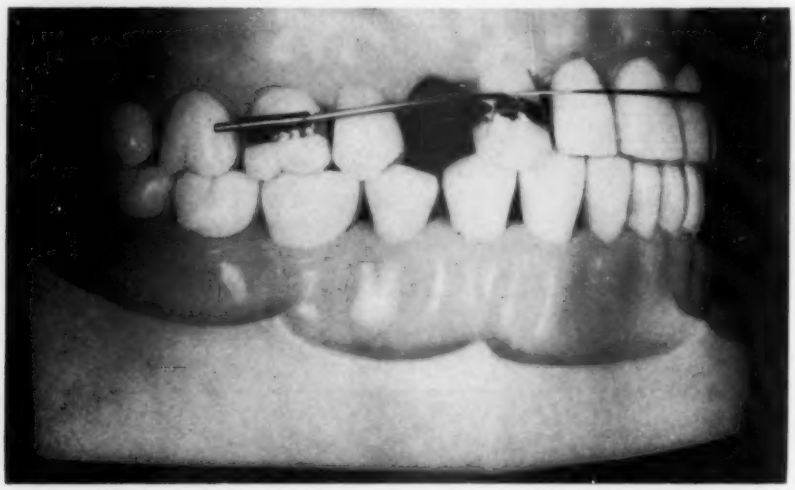

Fig. 11.

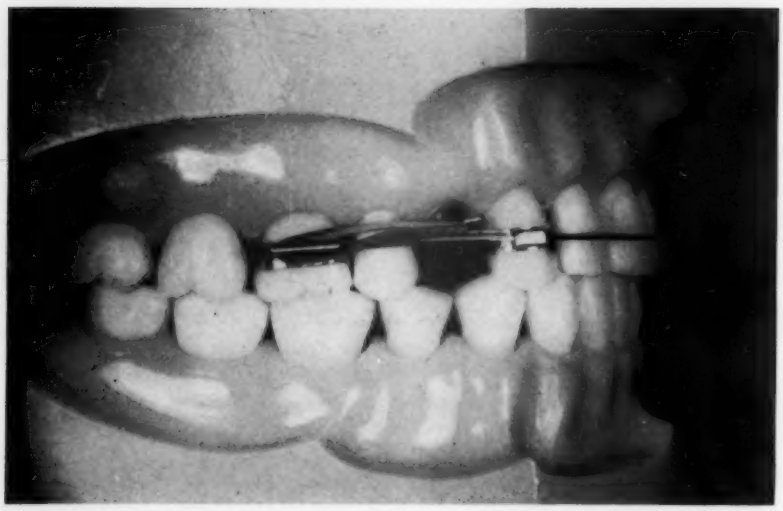

Fig. 12.

Fig. 10 shows an occlusal view of the maxillary labial arch in position.

When the maxillary first premolars have been removed, as shown in the technique model Fig. 11, and we plan to move the canine teeth distally, great care must be exercised so as to prevent the tipping of the axial position of the canine from the correct anatomical position. Also note the position of the channel on the canine band with relation to the axial angle of the canine. When the twin-wire arch is secured in the channel, the resulting force will maintain the proper axial angle of the canine.

There are three activating methods of stimulation I employ to move the canine distally along the labial arch. Each method is used separately. Fig. 12

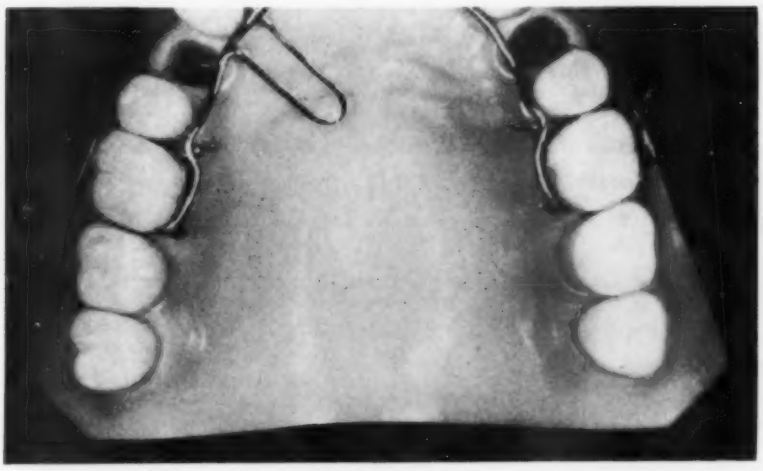

Fig. 13.

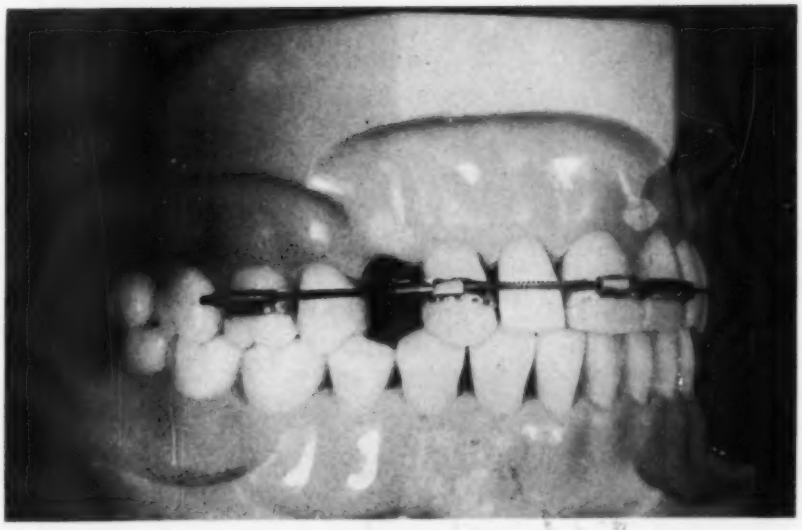

Fig. 14.

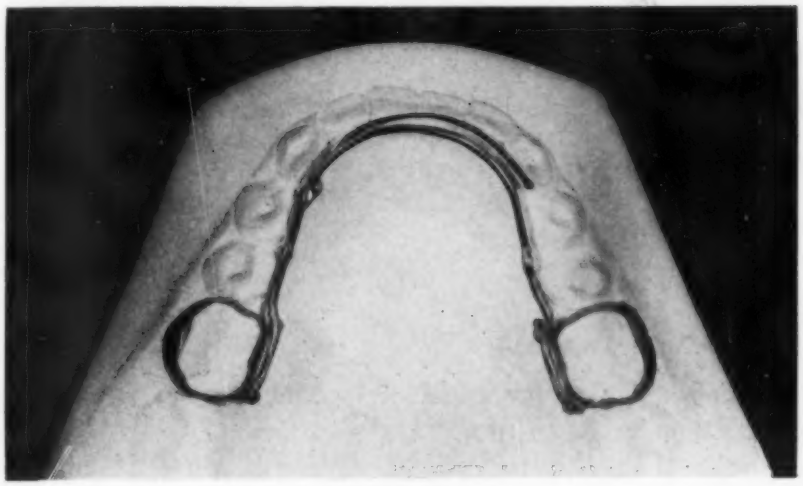

Fig. 15.

shows the first method I usually employ. A hook is soldered to the Johnson canine band and an intramaxillary elastic is stretched from this hook back over the distal end of the buccal tube on the molar band. The hook must not interfere with the free movement of the cap fitting on the channel. The maxillary lingual arch is not used during this operation, due to the fact that the movement of the molar teeth anteriorly is also desired.

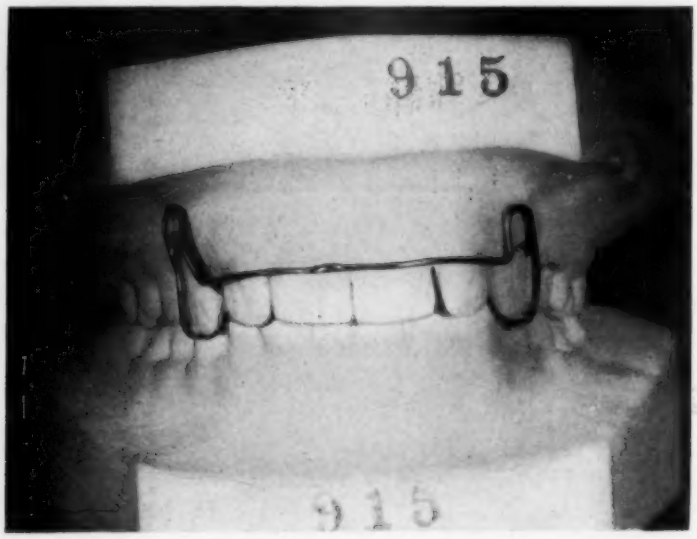

Fig. 16.

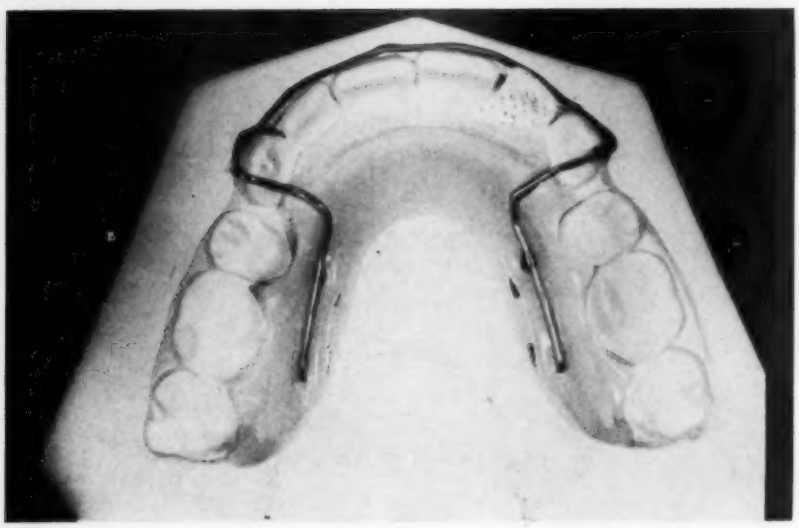

Fig. 17.

Fig. 13 shows a technique model demonstrating a maxillary lingual arch with a Crozat type auxiliary spring used to stimulate the distal movement of the canine. This method is employed in conjunction with the labial arch when it is not desirable to move the molars anteriorly. As the Crozat spring func-

tions, the axial angle of the canine is under control by action of the channel sliding along the labial arch. This method produces a very definite action and must be used with care.

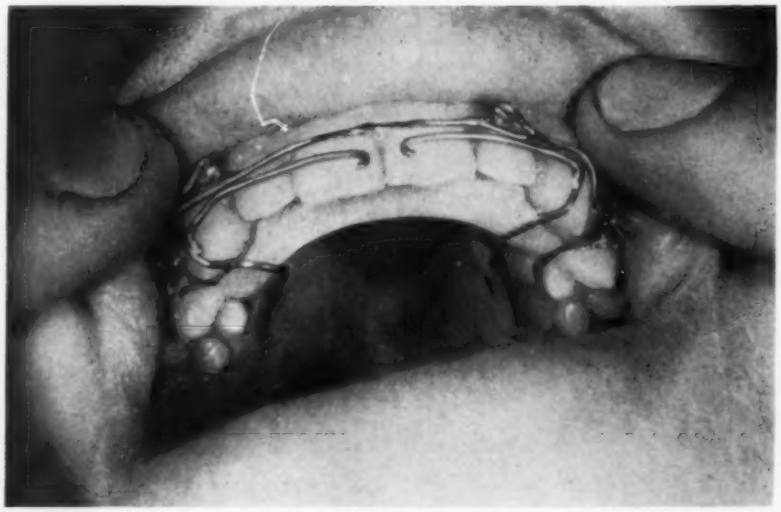

Fig. 18.

Fig. 19.

Fig. 14 demonstrates, on a technique model, the 100 per cent Johnson theory and technique. Two coil springs of 0.007 hard stainless steel are placed on the twin-wire arch, exerting an end force between the central and canine band attachments. They work simultaneously, against the right and left maxillary canines, resulting in an equalizing and gentle but continuous movement of the canine teeth distally. I often place on the arch a piece of end tubing the proper length to fit snugly between the central band attachments. This reduces to a minimum the possibility of the central teeth overlapping from the pressure of

the coil springs on each side. It can be seen on this slide indistinctly. Bear in mind that the position of the maxillary canines is a most important factor in the formation of the corners of the mouth, and their axial angle modifies, to a great degree, the esthetic arch proportion and mouth expression.

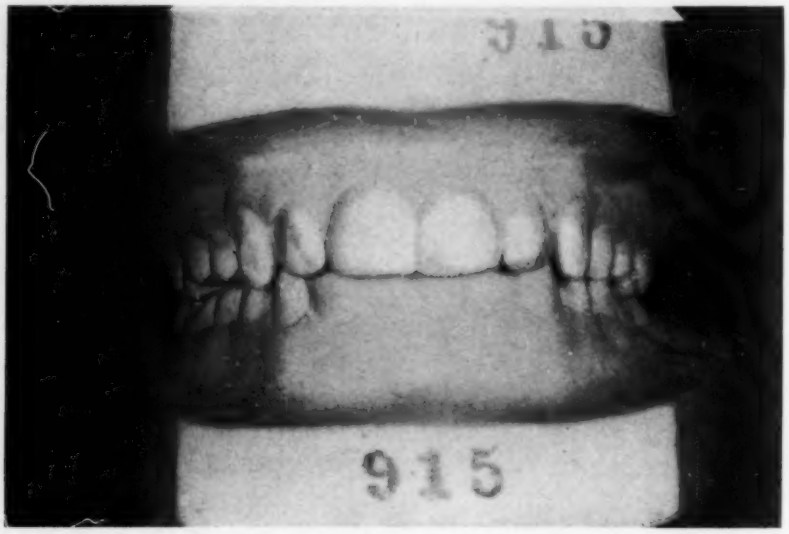

Fig. 20.

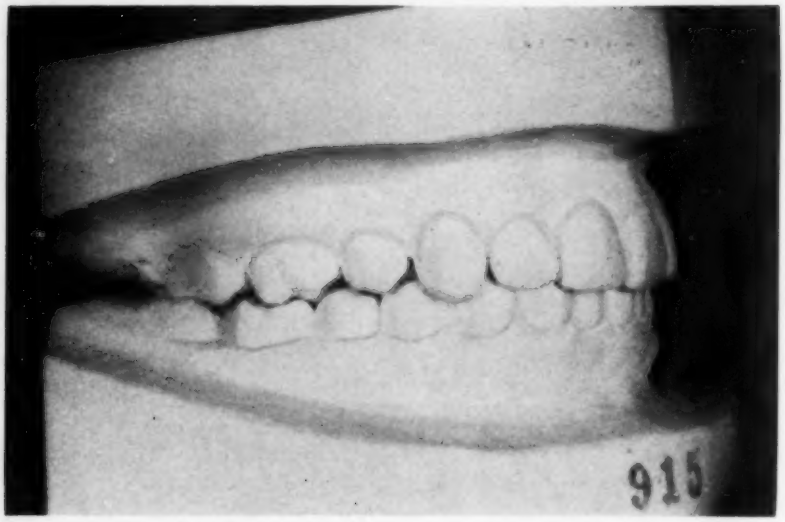

Fig. 21.

The distance the bands are placed from the incisal edge on the six anterior teeth determines the line up of the anterior teeth to the horizontal plane. For example, we place the bands nearer the gingiva on the teeth we wish elongated and nearer the incisal edge on the teeth we wish depressed. The Johnson twin-wire arch, when locked in the channels, pits one tooth action against the other and results in a reciprocal action by virtue of which we produce a marvelous mass stimulation and action.

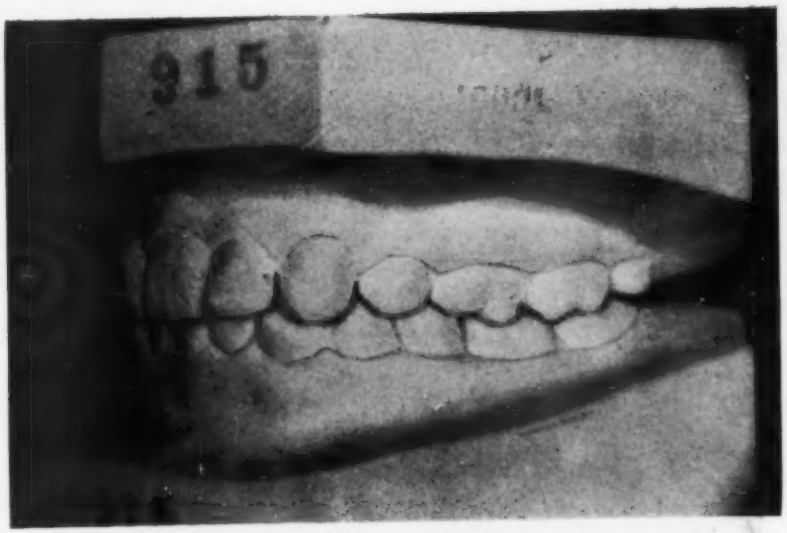

Fig. 22.

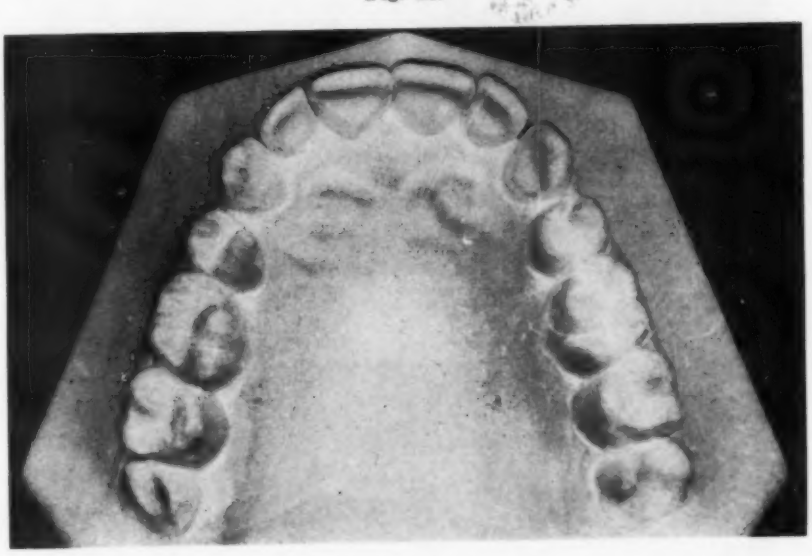

Fig. 23.

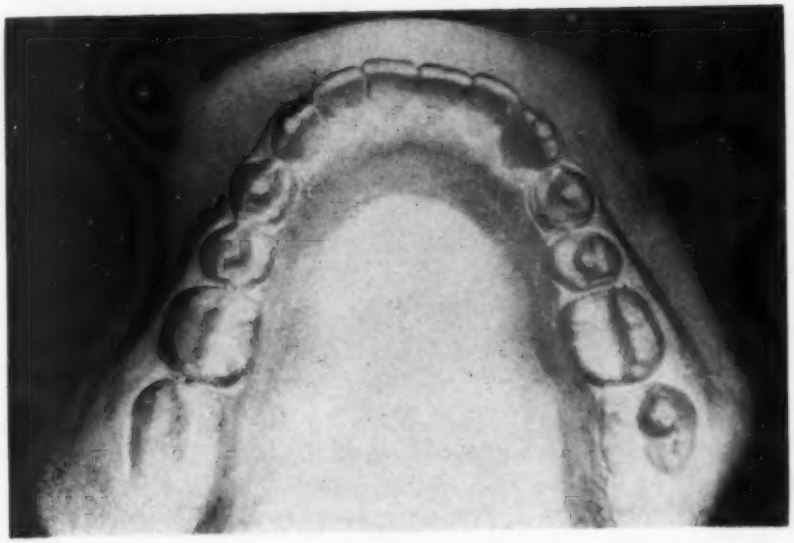

Fig. 24.

It must be remembered that even though a twin-wire arch appears fine in texture, it can, if improperly manipulated, exert a very damaging force, and detrimental results may ensue.

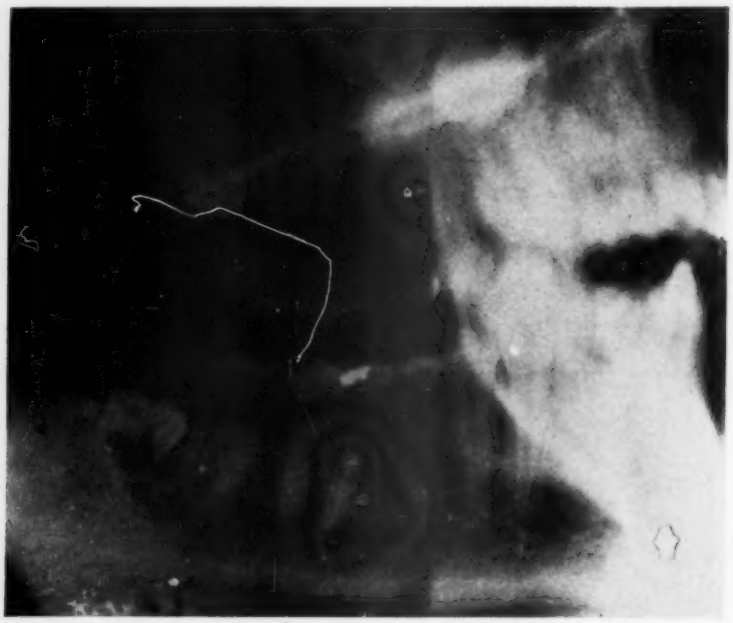

Fig. 25*A*.

Fig. 25*B*.

Fig. 15 shows the original plaster cast of the mandibular arch with a round wire lingual arch of 0.038 gauge. It is a detachable type of arch. In fact, I use detachable lingual arches exclusively. This type arch can be readily ad-

justed or repaired. An auxiliary finger spring of 0.022 platinized gold is so attached and adjusted as to bring a gentle force against the lingual surfaces of the mandibular incisors. This action rounds out the anterior arch segment

Fig. 26*A*.

Fig. 26*B*.

and, by virtue of the pressure against the inclined planes of the anterior teeth, it produces a depressing effect. This is desirable in cases of supraclusion of the anterior teeth, such as the case under discussion.

Orthodontic treatment of the teeth of the mandibular and maxillary arches was carried on simultaneously. After approximately six months, the mandibular lingual auxiliary finger spring was removed. The lingual arch was then reshaped and replaced in the mouth, acting as a passive retaining appliance.

Approximately one year after treatment was instituted I removed the entire appliance and inserted what I term a working bite plane retainer. Fig. 16 shows a front view of this plane in the mouth.

Fig. 17 shows an occlusal view of the inclined bite plane on the model.

During the next six months I carefully held the vertical relationship with the use of the bite plane retainer and also did a little finessing here and there with auxiliary springs. I employ the use of acrylics exclusively in the making of bite planes and retainers. The wire attachments are completely removable from the acrylic base for adjustments and repairs.

Fig. 18 shows some of the types of springs attached to the so-called working bite planes. This is only a demonstration slide and not a photograph of the case in question.

Fig. 19 shows a photograph of the mouth bringing out the importance, as previously explained, of carefully aligning the maxillary canine in its proper axial angle.

Fig. 20 to 24 show photographs of the case over four and a half years after all appliances were removed.

Fig. 25*A* shows a face plate radiograph of the right side before treatment. Fig. 25*B* shows a face plate radiograph of the left side before treatment.

Fig. 26*A* shows a face plate radiograph of the right side six years later. Fig. 26*B* shows a face plate radiograph of the left side six years later. Note how the mandibular third molar, when fully erupted, will satisfactorily articulate with its opponent even though the case has purposely been balanced in distoclusion.

I believe I have attained a satisfactory result by virtue of the fact that functionally, physically, and esthetically a good balance has been established.

1210-12 Medical Arts Bldg.

A CASE REPORT EMBODYING THE PHILOSOPHY OF THE ATKINSON APPLIANCE

M. Alden Weingart, D.D.S., New York, N. Y.

SINCE this technique is comparatively new in this part of the country, a conventional report presenting "before and after" evidence would be insufficient to acquaint you with the actual application of the mechanism. I shall, therefore, present a series of cases under active treatment so that you may see the application of the mechanism at various stages.

The Atkinson appliance is essentially a labial technique in which the motivating forces are applied and controlled by means of a bracket so designed that it has a three-dimensional control. The horizontal or gingival section is a modification of the open tube for the reception of a round wire; the vertical or occlusal section carries a diminutive ribbon wire. In other words, we have a bracket which enables us to use two mechanisms on one attachment band, and they may be used interchangeably: independently of each other, in segments, or as a complete arch, thereby giving us, truly, a universal control of tooth movement (Fig. 1). The round wire corrects elevations, depressions, and axial inclinations of teeth mesiodistally. The flat wire aids in rotation and uprighting of roots and crowns buccolingually, i.e., torquing.

Molar stabilization and anchorage is supplemented by a lingual appliance inserted into a specially designed horizontal lug. When desired, a buccal tube is placed over the buccal molar lug for the reception of an occipitally anchored arch (Fig. 2).

The lingual appliance is constructed of 0.036 round wire, the ends of which are doubled over the width of the lug, affording an excellent frictional lock. Where definite expansion is indicated, an 0.030 wire is used instead, and the doubled section is carried forward the desired length, affording excellent finger spring action (Fig. 3).

Coil springs, both open and closed, and a sliding yoke attachment for use with intermaxillary elastics complete the armamentarium (Fig. 4).

The entire mechanism is constructed of stainless steel alloys. The attachments and bands are welded. The labial wires are of fine dimensions ranging from 0.008 to 0.015 for the round wires, and 0.008 by 0.028 to 0.015 by 0.028 for the ribbon wire. Most of the applications are with 0.008 and 0.010 wires, the heavier gauges being used only for final alignment and fixation. Both wires are locked with a single lock pin. Due to the great resiliency of the fine round wires it is possible to obtain bracket engagement without the aid of ligatures or complicated bends.

Time will not permit our going into the details of construction. However, let us take a look at a few of the various assemblages in some patients' mouths (Figs. 5-15).

Read before the New York Society of Orthodontists, Nov. 9, 1943.

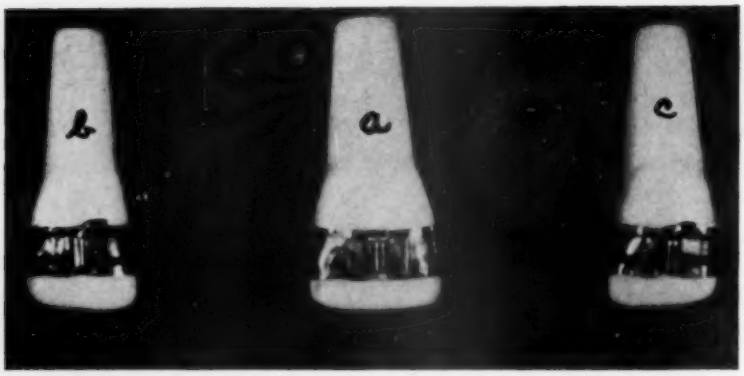

Fig. 1.—*a*, The Universal bracket showing horizontal or gingival, and occlusal or vertical sections; *b*, assemblage of single round wire in gingival section and two round wires in occlusal slot; *c*, assemblage of single round wire in gingival section and ribbon wire in occlusal section.

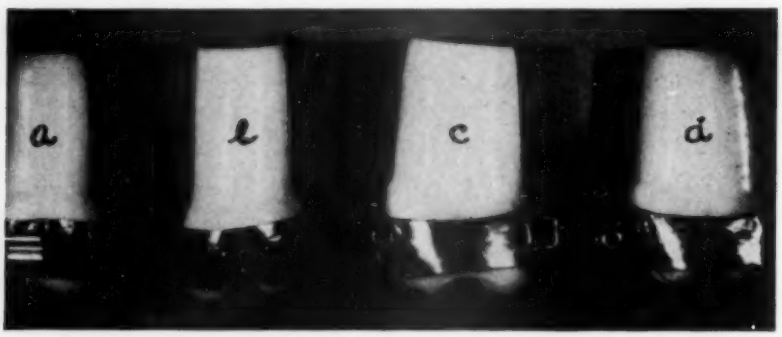

Fig. 2.—Molar attachments. *a*, Double molar lug; *b*, lingual lug; *c*, buccal and lingual lugs; *d*, round buccal tube over double buccal lug for reception of occipital arch.

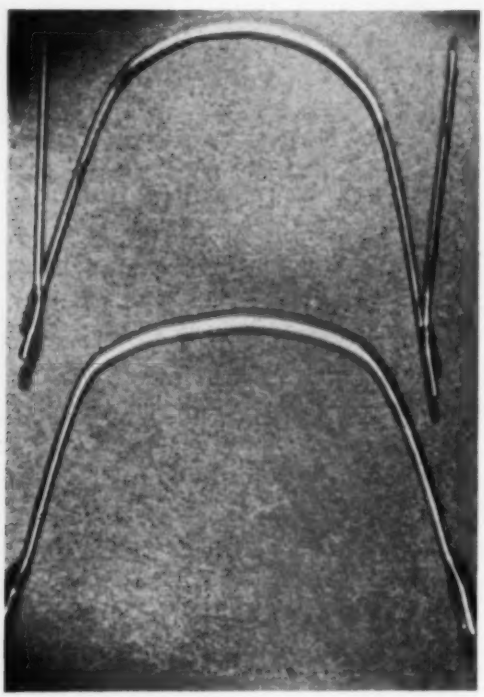

Fig. 3.—Lingual arches showing doubled section extended for finger spring action.

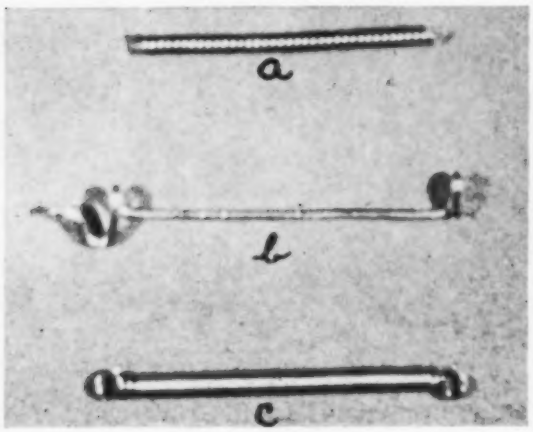

Fig. 4.—*a*, Open coil; *b*, sliding yoke; *c*, closed coil.

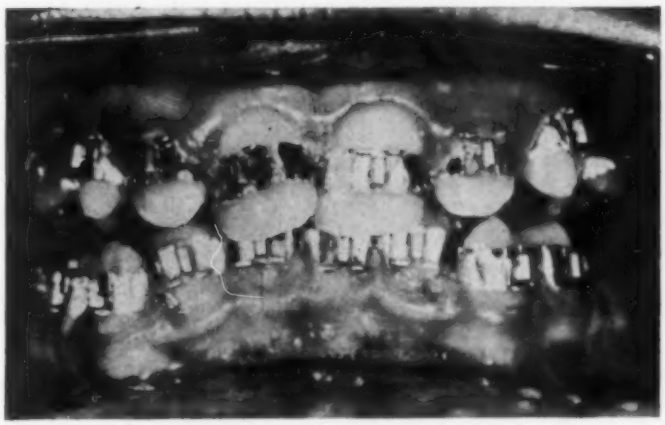

Fig. 5.—Universal bracket assemblage.

Fig. 6.—Complete assemblage with wires inserted.

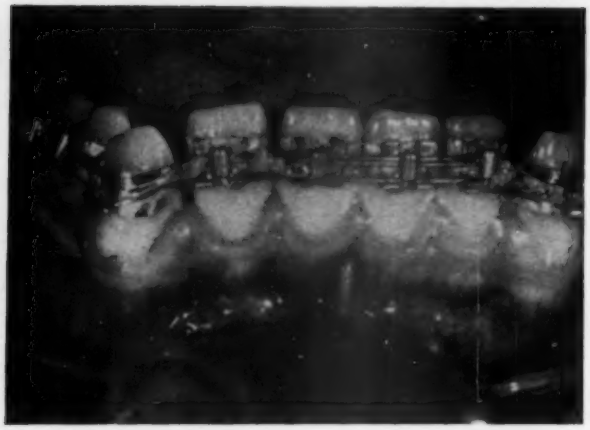

Fig. 7.—Assemblage of three 0.008 round wires for correction of elevations and depressions.

Fig. 8.—Assemblage of 0.008 by 0.028 ribbon wire in occlusal section and 0.008 round wire in gingival section for torquing action.

Fig. 9.—Buccal section with coil spring between first and second molars.

Fig. 10.—Buccal section with sliding yoke assemblage directing coil spring action to second molar.

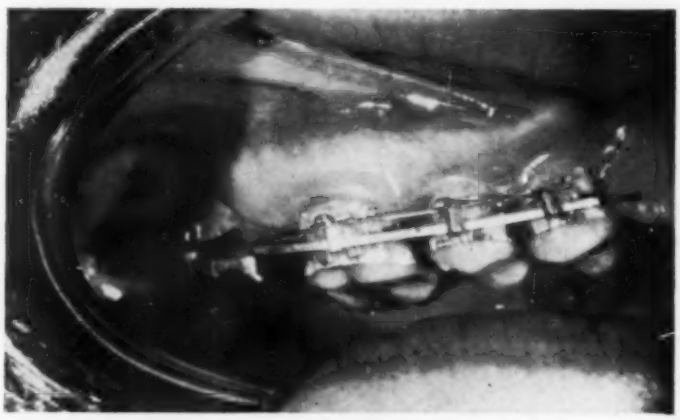

Fig. 11.—Buccal section showing distal movement of second molar retained with the gingival wire.

Fig. 12.—Buccal section showing continuation of sliding yoke for distal movement of first molar.

Then let us consider the case of A. S., who came for consultation in February, 1943, with the following history:

Male; aged 16 years, 8 months; weight, 130 pounds; height, 5 feet 7 inches.

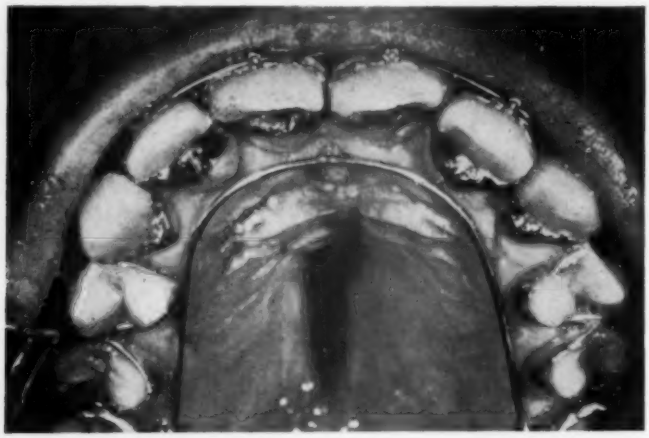

Fig. 13.—Assemblages supplemented with an 0.036 lingual arch for molar anchorage stabilization.

Fig. 14.—Occipital traction bar attached to head cap.

He was normal at birth but after three months was treated for hypothyroidism. At 3½ years of age, he had spinal meningitis, and at 4 years of age, pneumonia. Adenoids and tonsils were removed at 8 years of age. At present there is a marked nasal stenosis accompanied by a postnasal drip. He also suffers from hay fever. A pernicious habit of sleeping on his stomach with his face buried in the pillow was also discerned.

There was an uneventful development of the deciduous dentition, but an apparent retardation in their shedding, since the family dentist "kept extracting the baby teeth to allow the second ones to come through." At the age of 12 years, it was noticed that all the permanent teeth had erupted, with the exception of the cuspids which were just breaking through the gum tissue but were completely locked out of the arch.

For the next three years the boy received orthodontic treatment; he was then dismissed with the admonition that this was the best that could be done for him since "his teeth were too large for his jaws."

The original casts and records were not obtainable since the orthodontist had joined the Armed Forces. However, it was ascertained that the technique used consisted of a simple labial and lingual appliance anchored to the molar teeth, which was supplemented by the use of grass line ligatures.

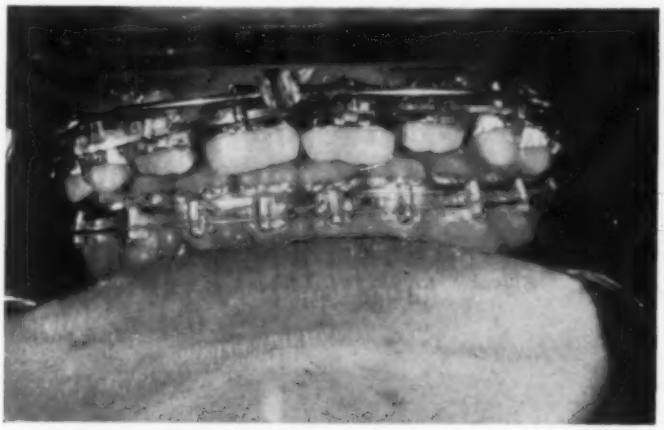

Fig. 15.—Occipital traction bar slides onto arch which fits over existing mechanism without any interference.

A routine gnathostatic diagnosis of the case was prepared, which consisted of:

1. An oriented set of models.
2. Photostats.
3. Profile radiograph.
4. Maxillary radiograph (key ridge).
5. Intraoral radiographs.
6. Lateral jaw views.
7. Hand radiograph.
8. Graphic interpretation.
9. Differential diagnosis.

A careful study of all the foregoing data made the diagnosis quite obvious: that of a bilateral protraction of the buccal segments of the maxilla. Since the radiographs revealed no deleterious effect of the previous treatment, the prognosis for further correction was considered favorable. Because of the age of the patient and the protracted treatment he had already received, it was deemed advisable to remove the upper third molars in order to facilitate the distal movement of the buccal segments.

It is interesting to note that, in accepting this plan of procedure, the parents related that they had consulted two other orthodontists previously. One

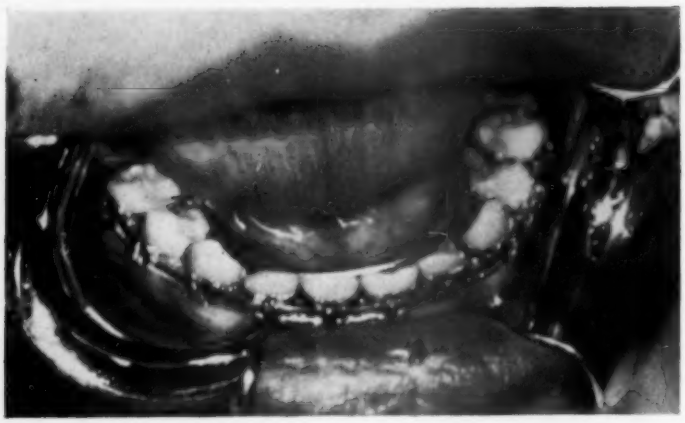

Fig. 16.—Complete labio-lingual assemblage for stabilization of anchorage.

Fig. 17.—Buccal section with sliding yoke assemblage directing coil spring action to second molar.

Fig. 18.—Upper lingual arch serves to maintain molars within cancellous bony track during movement.

had recommended the removal of the upper first premolars, and the other, both the upper and lower first premolars.

Mechanical therapy was instituted on Feb. 16, 1943, by banding all the lower teeth from molar to molar with universal brackets. An 0.010 round wire was inserted in the gingival slot and an 0.010 by 0.028 ribbon wire in the occlusal section. In addition, an 0.036 lingual wire was inserted into horizontal lugs on the molars. This assemblage gives us as perfect a stability of anchorage as it is possible to obtain (Fig. 16).

Fig. 19.—Buccal section with sliding yoke assemblage directed to first molar.

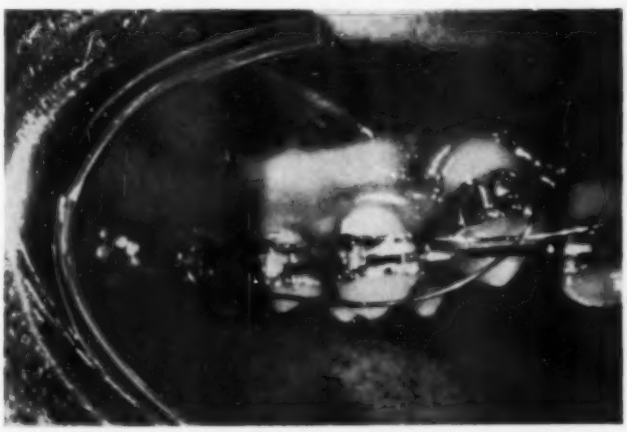

Fig. 20.—Auxiliary spring lever for uprighting and rotation.

In the maxilla, the premolars and molars were banded, with the second molars carrying the lugs (Fig. 17). Two buccal sectional wires (0.010 gingival and 0.010 by 0.028 occlusal) were inserted, the ribbon wire carrying a coil spring between the first and second molars, and a sliding yoke extending from the bracket on the first molar to the cuspid region. Intermaxillary elastics were connected from the yoke to the lower molars. An 0.036 lingual arch anchored in horizontal lugs on the molars was also inserted (Fig. 18).

With this assemblage, a positive control is obtained which gives us, as Dr. Waldron so aptly put it, "a maximum of resistance units against a mini-

Fig. 21.

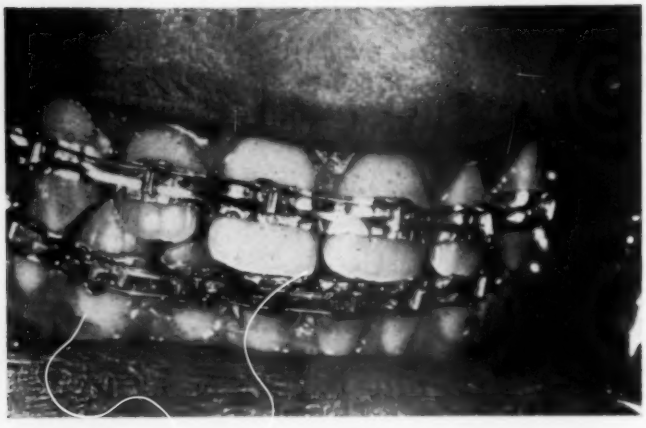

Fig. 22.

Fig. 23.

Figs. 21, 22, 23, and 24.—Showing completed distal movement of buccal segments with cuspids brought into alignment.

mum of response units.'' The elastic pull of the sliding yoke against the first molar resists any anterior force of the coil spring so that the second molar must move distally. The lingual arch stabilizes the molar and keeps it within the track of cancellous bone, preventing it from moving into the buccal or lingual cortical plates.

Fig. 24.

Fig. 25.—Showing retention of mandibular incisors in normal axial relationship.

After six weeks, the second molar had moved to its correct relationship (Fig. 19). The coil spring was then removed and a loop stop bent in the gingival wire to retain the second molar in its new position. The continued application of the elastics against the sliding yoke now moved the first molar distally. This assemblage was successively applied to the premolars by shortening the expanse of the yoke until all the buccal teeth were moved distally to positions of normal occlusal relationships.

The six anterior teeth were then banded and a full labial arch (0.010 gingival and 0.008 by 0.028 occlusal) was inserted for alignment and positioning of the anterior teeth. Because of the extreme inclination and rotation of the right cuspid, an auxiliary spring lever was inserted before complete bracket

engagement was attempted (Fig. 20). The next few slides (Figs. 21-24) show the result exactly six months from the time mechanical therapy was started, with appointments spread at three-week intervals.

Fig. 26.—Maxillary radiograph viewing buccal segments of denture in relation to the key ridge.

Fig. 25 shows the lower anterior teeth in normal axial relationship on the ridge.

Fig. 26 shows radiographic view of the denture in relation to the key ridge.

119 West 57th Street

THE MANAGEMENT OF TRAUMATIZED PULPS

THEODORE KALETSKY, D.D.S., NEW YORK, N. Y.

UNTIL recent years the dental pulp was regarded as one of the most difficult organs in the entire body to examine and diagnose properly. Many opinions were freely given, based on meager clinical observations such as the color of the crown of a tooth, the reaction of the tooth to thermal changes, the drilling of holes in the crowns, the presence of acute symptoms in the investing structures, and others. Frequently, a diagnosis was rendered only by the appearance of a tooth and its investing structures on the roentgenogram. Based on these opinions only, many pulps and teeth were condemned and removed.

As a result of many years of research in pulp testing at the New York Institute of Clinical Oral Pathology, we are now able to employ a diagnostic aid with reasonable certainty of the findings. Today, it is possible to accurately diagnose the condition of dental pulps in an extremely high percentage of cases. The diagnosis is actually 100 per cent correct in single-rooted teeth, 94 per cent in premolars, and approximately 70 per cent in molars. These figures are based on the histologic study of several thousand pulps previously tested. In addition to the routine clinical examination of the teeth and their investing structures, it is essential that x-ray and pulp test examinations be made in order to diagnose the dental pulp properly.

With this additional information added to our diagnostic routine, we were actually amazed at many of our findings. For example, we found that every rarefied area in the periapical region is not necessarily a granuloma, and if it is a granuloma it does not follow that it is caused by a necrotic pulp. This may seem paradoxical, especially in view of what we have been taught. We have also learned that the dental pulp may withstand a severe trauma and often will fully recuperate. In the collection of the Institute we have a number of cases of fractured roots which we have followed up with routine x-ray and pulp test studies, and, in some instances, with histologic examination. After extended periods of time we have found that the fractured fragments contained normal pulp and that these teeth responded normally to pulp testing (Figs. 1, 2, 3, 5, and 6).

A number of years ago, we had an opportunity to test the pulps of teeth both before and after partial pulpotomies were done. We also had an opportunity to examine some of these teeth histologically and here, too, it was most surprising to learn of the actual recuperative powers of the pulp. Not only was it able to survive the operation of literally being torn in half, but after the operation it continued to function in an apparently normal manner, permitting the roots which were not completely developed at the time of operation to go on to complete development. The condition of these pulps was accurately determined both preoperatively and postoperatively by means of the electric pulp tester (Fig. 4).

Read before the New York Society of Orthodontists, Nov. 9, 1943.

We also have a number of cases where infections were introduced into the investing structures of the teeth, setting up an acute localized osteomyelitis with severe symptoms, showing marked destruction of the bony investing structures. Ordinarily, one would not hesitate to institute radical measures. However, in our examination we noticed these pulps were apparently normal in spite of the fact that clinical and x-ray evidence would lead us to feel otherwise. Under the circumstances, only symptomatic treatment was instituted and without exception these cases made a complete and uneventful recovery.

From these observations and many others, we have come to the conclusion that regardless of the clinical or x-ray findings, any tooth that responds normally to the electric pulp test should receive most conservative management. The chances are excellent that it will make a normal recovery if we merely try to assist Nature by improving the environment of the tooth and instituting such symptomatic treatment as may be indicated. Of course, in cases of certain types of tumors and other isolated instances, exceptions should be made.

Fig. 1.

Fig. 2.

Fig. 1.—Root of lower incisor was fractured in an automobile accident. Pulp test is normal.

Fig. 2.—Same case as Fig. 1 four years later. Pulp test normal. There is definite radiographic evidence of repair of fractured root probably by osteocementum.

The symptom of discoloration of a crown of a tooth should naturally be observed, but it is of little importance in the diagnosis of the condition of a pulp. For example, in cases of complete or partial obliteration or calcification of the pulp chamber and canal, these teeth almost invariably become slightly discolored, taking on a yellowish hue. These teeth may give a normal pulp test, but in extreme cases they give no response to the test. We have examined a number of these teeth histologically and feel that, in the absence of clinical evidence to the contrary, they should be regarded as normal.

In teeth that have been severely traumatized, we frequently observe a bluish discoloration of the crowns immediately following the injury. In these teeth particularly, it is important to do periodic pulp tests. This discoloration is probably caused by internal hemorrhage and, with one exception, all of the cases which have come to us for diagnosis have recovered. Shortly after the injury, the pulp test response may be abnormal, but usually within a couple of months it should return to normal, and after an extended time, the bluish

Fig. 3.—Root of central incisor was fractured twenty-six years previously. On pulp test examination, the central incisor responded normally and the lateral incisor did not respond. Examination of these pulps postoperatively showed a normal pulp in both fragments of the central incisor and a necrotic pulp in the lateral incisor.

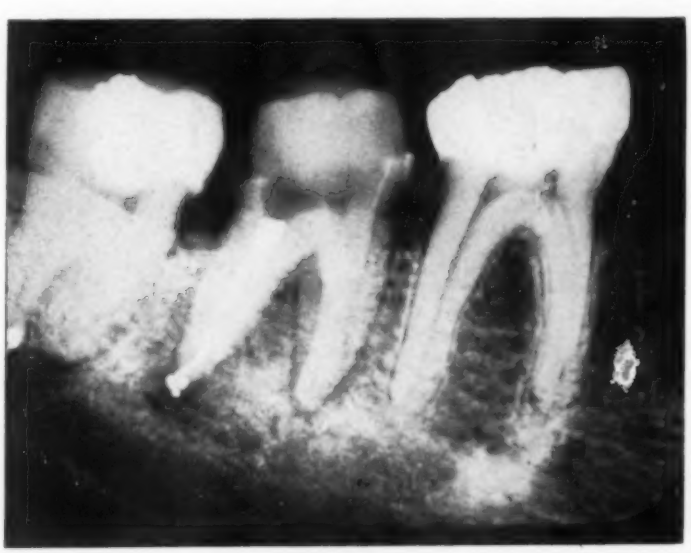

Fig. 4.—Root canal was filled in the distal root of lower second molar nine months previously. At that time the operator felt that the remainder of the pulp was normal, so he filled the tooth. Nine months later, this tooth was extracted and at that time responded normally to the pulp test. Histologic examination revealed a viable pulp in the mesial canals and the mesial part of the pulp chamber.

discoloration should disappear. In some of these cases the crowns of the teeth may retain a slightly yellow permanent discoloration which may only be observed on close inspection. On the other hand, in these same teeth, if the pulps were to be permanently injured and were ultimately to become necrotic, this tendency could be detected very early by pulp test, and such therapeutic measures as may be indicated could be instituted long before more serious clinical symptoms developed. Incidentally, this type of trauma has been observed in several cases receiving orthodontic treatment.

Fig. 5.—At the time that this horizontally impacted canine was removed, the apex of the first premolar was accidentally fractured. This tooth was x-rayed and the pulp was tested periodically with the intention that it would receive further treatment only when either x-ray, pulp test, or clinical evidence should warrant it.

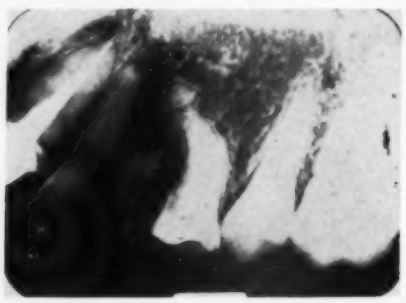

Fig. 6.—Same as Fig. 5 three years later. All of the teeth give normal pulp tests. There is no x-ray or clinical evidence to suggest the institution of any other treatment.

In conclusion, I should like to state that, if a proper diagnosis of the dental pulp is made in cases of trauma and other conditions, many mutilating operations may be prevented and a great many pulps and teeth may be saved that otherwise might be sacrificed unnecessarily.

Because of the nature of the therapeutic methods employed in the specialty of orthodontics, there may be a tendency to traumatize teeth and pulps. I hope this presentation will not encourage the use of too drastic procedures in the movement of teeth, for, surely, there must be a limit somewhere to the amount of insult any tissue may take.

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DISCUSSION

Dr. Matthew Kay Klein.—There are two questions I would like to ask. First, in the two cases where there was extensive destruction of bone following prophylactic treatment, have you an explanation to offer for that? The second is, what explanation can be offered for the disappearance of the discoloration of these incisors after apparent traumatization and apparent death of the pulps?

Dr. Kaletsky.—In answer to the first question about how the infection occurred, I would hate to think that any dentist does not use clean instruments. However, I think it is much more likely that the child, after the prophylaxis, may have put a dirty finger in his mouth and inoculated himself with a virulent organism at that time.

Dr. Klein.—Could that happen in so short a period of time as you described, and with bone and not soft tissue?

Dr. Kaletsky.—In this case the acute symptoms set in within twenty-four hours, and this infection unquestionably spread by extension into the soft tissue and bone. In cases of osteomyelitis, radiographic evidence of changes in bone does not appear for several weeks. In this case the x-ray which I have shown was about three weeks after the onset.

With regard to your second question concerning the discoloration, do you have reference to the bluish discoloration in the crown of the tooth following trauma?

Dr. Klein.—Yes. That disappears eventually, as I understand it.

Dr. Kaletsky.—I think if you will follow the literature of some of our eminent histologists, you will notice that they all speak of circulation in the dentine, and some even go so far as to say there is possibly a circulation in the enamel. I think the question of circulation in the dentine has been fairly well established, and under the circumstances it is reasonable to expect that any foreign material, such as blood, could easily be taken up by the circulation and carried away. When the discoloring elements of the blood are carried away, I think you will find that the color of the tooth will change.

Dr. Shotwell.—Do you consider the pulp tester rather reliable?

Dr. Kaletsky.—In single-rooted teeth, it is actually 100 per cent reliable; in premolars, 94 per cent; in molars, 70 per cent. I really cannot tell you anything more than that, and those figures are based on histologic studies of pulps previously tested.

Dr. Shotwell.—How about teeth with metallic fillings?

Dr. Kaletsky.—You have to test on enamel or dentine.

THE MOTHER-BREAST FEEDER

DR. ANTONINA M. KAZIMIROW,* SHANGHAI, CHINA

SUCKLING is an instinct which is very powerful at birth, but which needs appropriate conditions in order to work properly. It is obvious that favorable conditions in their plenitude can be provided only by nature. Breast feeding is not merely a procedure through which milk is conveyed into the digestive apparatus; it is a process accompanied by a state of psychologic satisfaction, with a paralleling beneficial influence upon the infant's appetite and digestion.

Just as important, suckling involves a series of functions which have an intimate bearing upon the development of the infant's dental arches, the growth of the jaws, the formation of the deciduous teeth, and the condition of the permanent dentition.

When artificially fed by means of present-day nursing devices, the infant is handicapped in the development of his oral structures because the functioning of the jaws and other muscles of the oral cavity is reduced. Such restriction of exercise results from the tendency of the rubber nipple to be ejected from the mouth before the suckling has reached its maximum vigor.

No less an authority than Dr. Alexis Carrel has said (*The Reader's Digest*, June, 1939):

> "To aspirate milk from a bottle through a rubber nipple of the type generally used is not equivalent to breast suckling. It does not have the same formative influence on the face and the throat. Artificial feeding is partly responsible for the protruding upper jaw, recessed chin, ill-formed nose, flattened mouth arch, which many children display today. These malformations cause defective dentition and predispose to infections of the tonsils, pharynx, ears, and sinuses."

Symptomatic of improper artificial feeding of babies are the habits of thumb-sucking, pillowing, lip-biting, etc., which habits, by themselves, serve to deform the oral cavity and dentition with the resulting malocclusion sequelae.

The correction of these habits is the subject of much medico-educational literature, which, however, fails to go to the bottom of things. Mechanical devices are usually proposed for interference with these habits. It would seem more reasonable to discover the very causes that lead to the formation of the habit. Such causes clearly are, on the one hand, the insufficiency of the amount of suckling exercise performed in the process of feeding, and, on the other, the proximity of the baby's hand to its mouth when the baby handles the bottle.

If the infant is to be deprived, totally or partially, of the benefit of nursing at its mother's breast, it should not be fed through a device which is the direct source of dentofacial malformation and bad habits. Feeding should take place by means of the most natural approach to the human breast, a device designed not only to meet the requirements of contour and softness, but also to maintain an even temperature of the milk, to simulate in the best possible manner the conditions of breast feeding.

*Now in New York, N. Y.

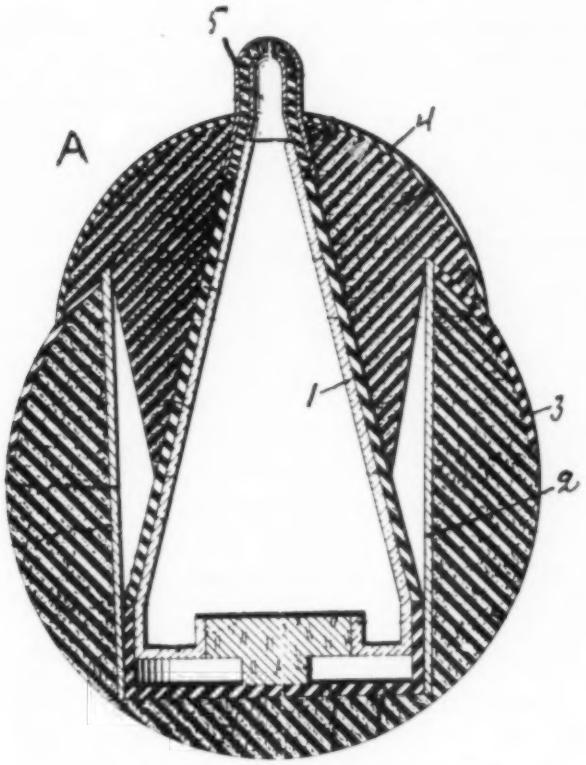

Fig. 1.—Cross section of feeder and holder.

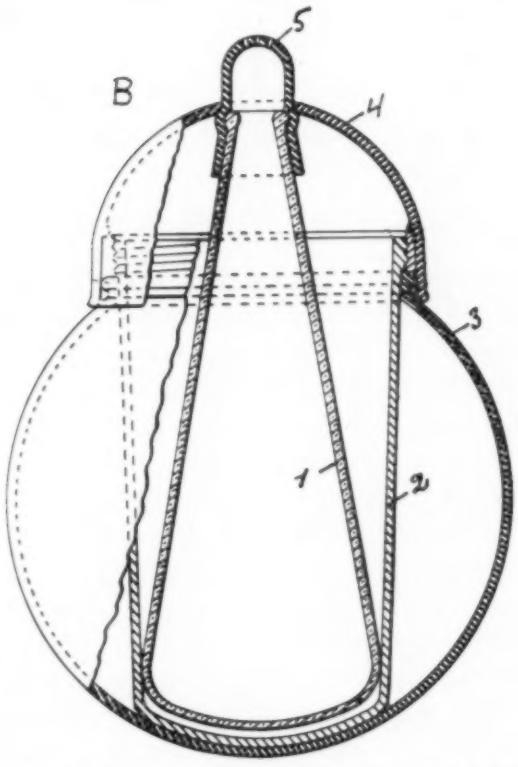

Fig. 2.—Cross section of simplified feeder and holder.

All of these principles of proper feeding through a nursing device have been incorporated in the "Mother-Breast Feeder," which may be made in two forms, of which one is more simple than the other. We may identify these as Models A and B respectively (Figs. 1 and 2), both equally embodying the main idea, although differing in detail and in execution.

The device consists of two parts: the "feeder" itself and its "holder." The first may be used independently of the second.

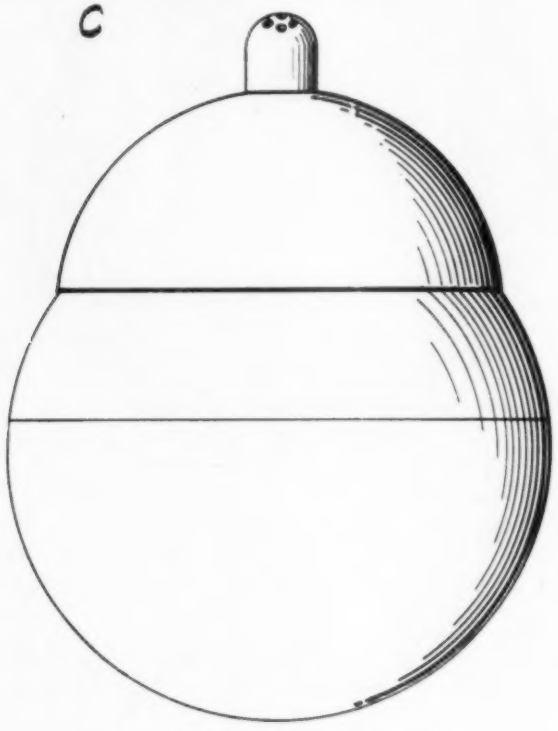

Fig. 3.—The Mother-Breast Feeder.

Referring to the illustrations, there is shown (Figs. 1 and 2) a cross section of a cone-shaped bottle made of some nonporous material such as glass or porcelain (*1*). This has a relatively large opening at the base for admitting milk, to which a stopper or plug frictionally adheres.

The bottle is placed in a tubular container (*2*) made of aluminum or other suitable material, of a quasi cylindrical shape, showing a diameter at the bottom, sufficient to keep the base of the bottle rigidly wedged, the upper diameter being somewhat wider so as to facilitate the insertion of the bottle.

The bottle, together with the container, are covered by a system of spherical enclosures (*3* and *4*) made of rubber overlaid by a layer of silky flesh-colored rubber, so as to provide the device with characters similar to those of a natural mammary gland and to reproduce the yielding properties of "movement" or "life." While in Fig. 1 parts *3* and *4* are made of soft spongy rubber and both parts are fastened to the bottle and to the container, and therefore to one another, by frictional adhesion, in Fig. 2 we see them mutually fastened by a ring made

of some rigid material and threaded inside for corresponding threads of the outer portion of the container. This ring is firmly cemented to the inner surface of the semispherical part *4*.

While in Fig. 2 the nipple (*5*) corresponds to the ordinary type actually in use, in Fig. 1 it is of essentially new construction. It is formed of relatively soft, spongy rubber and is covered by a layer of silky rubber, while its top shows a series of small openings or "pores" passing through the rubber structure to allow milk to be released, but only by sucking or pressing.

The beneficial properties of the device are apparent. Faithful reproduction of conditions obtained in breast nursing is bound to evoke manifestations of the suckling instinct and leads to normal movements of the oral muscles. Moreover, it removes the origin of the bad habits.

Maintenance of an even temperature of the milk, apart from aiding digestion and nutrition, allows the process of suckling to be prolonged, thus lengthening the period of exercise of the dental organs and contributing to their maximum development.

Feeding, moreover, can proceed under conditions of a normal posture of the baby. The posture now seen in most cases, with the baby lying on his back and the bottle overhanging the mouth, is not natural and is wrong in all respects.

It should be finally noted that the nipple, as shown in Fig. 1, corresponds to nature in so far as the process of suckling practically refers not to the actual movement of "sucking" but to the movements of "pressure" and "chewing."

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There may be members in the Service whose names do not appear in the above list. These members should notify the secretary at once so that their names may be included.

Max E. Ernst, Secretary, American Association of Orthodontists, 1250 Lowry Medical Arts Bldg., St. Paul, Minn.

In Memoriam

MAX J. FUTTERMAN

Dr. Max J. Futterman, of 1749 Grand Concourse, New York, N. Y., died at his home, on Saturday, May 8, 1943, at the age of 41 years.

Dr. Futterman attended the public schools in New York City and was graduated from the New York University College of Dentistry in 1923. He practiced dentistry and orthodontics until 1936, after which he confined his practice to orthodontics. Dr. Futterman received his early orthodontic training at New York University, where he served for several years in a teaching capacity. At the time of his death Dr. Futterman was a member of the staff of Montefiore Hospital and was Chief of the Orthodontic Service at Lebanon Hospital, both located in the Bronx, New York.

Dr. Futterman lived a many-sided and vigorous life. He was an outstanding amateur photographer. He was a member of the Photographic Society of America and an Associate of the Royal Photographic Society of Great Britain, and received much acclaim for the high quality of his work. He was a splendid golfer, qualifying in 1940 in the Eastern Amateur Championship and winning the tournament of the American Dental Association at Atlantic City, New Jersey, in 1940.

Dr. Futterman served dentistry in many capacities and made many contributions to dental and orthodontic literature. Within the eleven months preceding his death, he had made five blood donations to the American Red Cross.

His other dental affiliations included membership in the American Dental Association, The New York Society of Orthodontists, and the American Association of Orthodontists. He belonged to the Lions Club, The Fenway Golf Club, and the Pi Lambda Phi fraternity. His chief characteristic was his boyish, buoyant enthusiasm. He was always cheerful and never too busy to find time for helping others. Dr. Max Futterman will be missed by his many friends and colleagues.

He leaves a widow, Mrs. Miriam Wilson Futterman, and a daughter, Jane.

WHEREAS, it pleased the Almighty to remove Dr. Max J. Futterman from our midst;

WHEREAS, Dr. Futterman was a loyal and faithful member of The New York Society of Orthodontists;

WHEREAS, he was a conscientious and ethical practitioner of our specialty;

WHEREAS, he was always ready to share his knowledge and experience with others in the profession;

WHEREAS, he contributed to orthodontic practice and teaching;

Adopted at the fall meeting of the New York Society of Orthodontists.

WHEREAS, he devoted a great deal of his time and energy to public welfare;

WHEREAS, his passing deprived the Society of a most promising youthful member;

THEREFORE, BE IT RESOLVED: That the New York Society of Orthodontists express its deep sense of loss on the untimely death of Dr. Max J. Futterman, and that these resolutions be spread on the minutes, published in the JOURNAL, and that a copy be forwarded to his widow.

LESLIE P. ABBE

BE IT RESOLVED, that we, the officers and members of the New York Society of Orthodontists, assembled for our regular meeting, Nov. 8, 1943, regret the passing of our fellow member, Dr. Leslie P. Abbe, of Hartford, Connecticut, on Sept. 7, 1942, and extend to his family our sincere sympathy in their loss.

Department of Orthodontic Abstracts and Reviews

Edited by

Dr. J. A. Salzmann, New York City

All communications concerning further information about abstracted material and the acceptance of articles or books for consideration in this department should be addressed to Dr. J. A. Salzmann, 654 Madison Avenue, New York City

A Textbook of Orthodontia, ed. 2: By Robert H. W. Strang, M.D., D.D.S., Philadelphia, Lea & Febiger, 1943.

During the past ten years the specialty of orthodontics has made unusual progress, and the author has completely revised his second edition to conform to these changes in theory and practice. The findings of outstanding research men and the changes in clinical procedures are recorded and correlated to our specialty.

Those students and practitioners who have previously found it difficult to follow the author in his case analysis for classification will be delighted to read the revised section of the text dealing with this subject. Here are given analyses of nine cases, illustrating in a step-by-step manner the six essential processes by which each case is analyzed.

In the chapter on the growth of the cranium, the face, the maxilla, and the mandible, the author presents a concise and illuminating résumé of the work done during recent years by the research men in this field. The chapter on eruption of the teeth and the development of occlusion is based upon the findings of Broadbent as presented in his essay on "Ontogenetic Development of Occlusion," at the University of Pennsylvania Bicentennial Conference, in 1941.

The author gives in detail, in his discussion of the edgewise arch mechanism, the correct positioning of the tie bracket band, the placing of the alignment staple, the rectangular sheath, and the auxiliaries attached thereto, or used in conjunction therewith. The mechanics of individual tooth movement and mass tooth movement is thoroughly discussed and accompanied by numerous illustrations. Then follows the incorporation of distal tipping bends in the arch wire, commonly known as tip-back bends. This technique is presented in a step-by-step procedure, with an analysis of the series of levers produced by this arch-wire adjustment.

Torque force is explained. The author gives the technique for placing this force so that it will act upon an individual tooth, or upon groups of teeth as in the incisor section of an arch wire, or in the canine, premolar, and molar areas, either individually or en masse. This is followed by the technique for producing progressive torque in the buccal sections of the denture and combining this force with mass lingual torque in the incisor area.

The problem of anchorage, simple, stationary, reciprocal, and intermaxillary, is discussed and brought up to date, with a description of present-day occipital anchorage.

The author's close association with Dr. Charles Tweed and his years of experience as a teacher has aided him in interpreting and analyzing the philosophy promulgated by Dr. Tweed, and known to the orthodontic world as the Tweed technique. This technique is described in minute detail. All appliance assemblage and subsequent manipulation of the arch wires that are required in performing this outstanding method of correcting malocclusion are presented in a series of steps which follow one another in a logical and correlated sequence. The Tweed technique for treatment of bimaxillary protrusion cases is also given careful consideration, followed by definite outline of the technical procedure. The treatment of mixed dentures in Class I as conceived by Dr. Hays Nance, of Pasadena, is given considerable space. In the chapter on the treatment of abnormal muscular tissues and actions is a résumé of a very interesting treatise by Dr. E. R. Strayer of Philadelphia, entitled, "Musical Instruments as an Aid in the Treatment of Muscle Defects and Perversions."

Glenn H. Whitson

News and Notes

PROGRAM FOR THE MEETING OF THE AMERICAN ASSOCIATION OF ORTHODONTISTS AT CHICAGO, ILL.

APRIL 25 TO 27, 1944

TUESDAY

9:00-12:00
1. Table Clinics.
2. Meeting of the Research Section.
3. Commercial Exhibits.
(All of these will be run simultaneously.)

12:15 Luncheon.

2:00 Executive Session.

2:30 Address of Welcome, Irving S. Cutter, M.D., of Northwestern University Medical School. Dr. Cutter is Medical Director of the Passavant Memorial Hospital, and conducts the Health Column of the *Chicago Daily Tribune*.

Response, President-Elect Archie B. Brusse, Denver, Colo.

3:00 President's Address, J. A. Burrill, Chicago, Ill.

4:00 Paper, "Changing the Occlusal Level and a New Method of Retention," Alexander Sved, New York, N. Y.

Synopsis: The treatment of a large percentage of orthodontic cases cannot be completed until the vertical relationship of the teeth is properly adjusted. Usually, this involves the depression of the maxillary and mandibular anterior teeth and the elevation of the posteriors. This can be very quickly accomplished by means of a new appliance, which is also very efficient as a retainer. Rotated teeth can be properly held without the use of bands.

4:30 Report of the First Inter-American Orthodontic Congress, by the President, Lieut. Col. Claude R. Wood.

8:00 Edward H. Angle Memorial Lecture (Subject to be announced later).

TABLE CLINICS

1. Treatment and Retention of Unilateral Distoclusion Cases, Dr. W. K. Slater, Knoxville, Tenn.
2. Treatment of Bimaxillary Protrusions, Dr. Samuel J. Lewis, Detroit, Mich.
3. Principles of Orthodontics in Orofacial Prosthesis and Oral Surgery, Dr. Jacob C. Lifton, New York, N. Y.
4. A Modified Use of the McCoy Open Tube Band Lock to Utilize the Finer Gauge Arch Wires, Dr. L. H. Wirt, South Bend, Ind.
5. Functional Occlusion as an Aid to Comfort and Stability, Dr. A. L. Fern, Hartford, Conn.
6. The Use of a Cotter Key in Wiring Mandibular Fractures Allowing Quick Release in Case of Nausea and Vomiting, Dr. Hamilton D. Harper, Shreveport, La.
7. Intra-Oral Photography, Dr. Will G. Sheffer, San Jose, Calif.
8. Spot Welding Jig for Universal Bracket Assemblage, Dr. M. Alden Weingart, New York, N. Y.
9. A Hereditary Trait Indicating Maxillo-Facial Surgery in Father and Son, Dr. H. L. Shehan, Jackson, Mich.
10. A Classification of Malocclusions Which Offers a Definite Plan for Treatment, Illustrated by Means of Diagnostic Charts, Dr. Egon Neustadt, New York, N. Y.
11. Some New, Very Simple, Very Efficient Additions to the Labio-Lingual Technic, Dr. Russell E. Irish, Pittsburgh, Pa.
12. Cephalometric Diagnosis of Abnormal Position of Mandible, Dr. John R. Thompson, Chicago, Ill.

13. Novelty Clinic, Dr. S. D. Terrell, Fort Worth, Texas.
14. Efficient and Durable Appliances Constructed of Chrome Alloy, Dr. Charles J. Vosmik, Cleveland, Ohio.
15. Twenty-Five Orthodontic Cases Before and After Treatment, Dr. Russell Hering, Milwaukee, Wis.
16. Little Things That Are a Big Help, Dr. E. W. Anderson, Cedar Rapids, Iowa.
17. A Report of Two Cases Complicated by Extraction of First Mandibular Molars, Dr. Henry Spenadel, New York, N. Y.
18. Extraction in Orthodontic Treatment, Dr. George W. Grieve, Toronto, Can.
19. Simplified Steps in Chrome Alloy Technique, Dr. Philip Dorenbaum, Providence, R. I.
20. McCoy Appliances, Dr. Louis S. Winston, Houston, Texas.
21. Indications for Early Orthodontic Treatment, Dr. C. E. Burroughs, Summit, N. J.
22. Case Reports and Treatment Procedure on Bimaxillary Protrusions—Using the Edgewise Mechanism, Dr. A. P. Westfall, Houston, Texas.
23. Occipital Anchorage, Dr. H. E. Jerrold, Brooklyn, N. Y.
24. Orthodontic Problems, Dr. W. R. Alstadt, Little Rock, Ark.
25. Refinements in Orthodontic Technic, Dr. John Sage, Flushing, N. Y.
26. The Construction and Use of an Integrated Chrome Alloy Attachment, Dr. S. T. Holmes, Muskegon, Mich.
27. The Distal Movement of an Impacted Upper Third Molar to Save the Second Molar, Dr. R. W. Eaton, Rochester, N. Y.
28. A Modern Philosophy of Orthodontic Treatment, Dr. L. Braun, Detroit, Mich.
29. Differential Tissue Changes During Continuous and Intermittent Tooth Movement, Dr. Stephen G. Lee, East Orange, N. J.
30. Original Design of Bracket Table for Model Grinder, Dr. W. H. Grinnell, Boston, Mass.
31. Some of Hellman's Records Illustrating Fundamentals in Orthodontics, Dr. M. A. Munblatt, New York, N. Y.
32. Variation in Design and Hook Up of the Ernest L. Johnson Occipital Anchorage, Dr. C. W. Konigsberg, San Francisco, Calif.
33. Diagnosis of Bimaxillary Protrusions and Their Comparison With Casts of Normal Non-Orthodontically Treated Dentitions, Dr. V. R. Ver Meulen, Grand Rapids, Mich.

WEDNESDAY

9:00–12:00 Panel, "A Consideration of Extraction in Orthodontic Treatment," George W. Hahn, Berkeley, Calif., Moderator.

Discussors:

Charles W. Tweed, Tucson, Ariz.,
George W. Grieve, Toronto, Can.,
Allan G. Brodie, Chicago, Ill.
Milo Hellman, New York, N. Y.

Questions from the floor.

12:15 Past-President's Luncheon.

2:00 Prize Essay:

The Board of Governors at the New Orleans meeting empowered the Research Committee to conduct a prize essay contest. An award of $200.00 was to be offered for the best piece of original investigation conducted by either an undergraduate, or a graduate student who had completed his work not over two years previously.

3:00 Paper, "Heredity and Variation in the Dentofacial Complex," Byron O. Hughes, Ann Arbor, Mich.

3:30 Paper, "Heredity as a Guide in Dentofacial Orthopedics," George R. Moore, Ann Arbor, Mich.

4:00 Executive Session.

6:00 President's Reception.
7:00 President's Ball.

THURSDAY

9:00 Paper, "The Forsyth Orthodontic Survey of Untreated Cases," Edward I. Silver, Boston, Mass.

Synopsis:

This paper represents a survey of untreated cases at the Forsyth Dental Infirmary, Boston, covering a period of more than ten years. About 400 cases were observed, starting when the patients were about 3 or 4 years of age, and studied at regular intervals to determine the changes which have taken place in the growth and development of the teeth and jaws without orthodontic aid.

10:00 Paper, "Phases of Maxillo-Facial Surgery of Interest to the Orthodontist," Frederick W. Merrifield, Chicago, Ill.

11:00 Ketcham Award, by the American Board of Orthodontists.
First Dewey Award, given to clinician for most outstanding clinic.

12:15 Luncheon.

1:30 Limited Attendance Clinics:
"Use of the Plaster Model in Case Analysis and Treatment Planning," W. B. Downs, Aurora, Ill.
"Use of Stainless Steel in Orthodontia," W. R. Humphrey, Denver, Colo.
"The Use of the Twin-Wire Mechanism in the Treatment of Compromised Cases," Jos. E. Johnson, Louisville, Ky.
"Final Positioning of the Teeth to a Predetermined Pattern and Retention," H. D. Kesling, Gary, Ind.
"Fundamentals of the Edgewise Mechanism," Chester F. Wright, South Bend, Ind.

4:00 Executive Session.

American Association of Orthodontists

The next meeting of the American Association of Orthodontists will be held at the Edgewater Beach Hotel, Chicago, Ill., April 25, 26, 27, 1944. Members of the American Dental Association are invited to attend this meeting upon the presentation of proper credentials and payment of the registration fee. Credentials should be obtained in advance from the secretary of the American Association of Orthodontists or the secretary of a constituent orthodontic society.

MAX E. ERNST, Secretary, 1250 Lowry Medical Arts Bldg., St. Paul, Minn.

Proposed Changes in the Constitutional By-Laws of the American Association of Orthodontists

The object of these proposed changes is to establish definite boundaries for the constituent societies.

1. The New York Society shall consist of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, Pennsylvania, New York, New Jersey, Delaware, Maryland, District of Columbia, and the Maritime Provinces of Canada.

2. The Southern Society shall consist of Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Kentucky, Mississippi, and Louisiana east of the Mississippi River.

3. The Great Lakes Society shall consist of Ontario, Michigan, Ohio, and Indiana.

4. The Central Society shall consist of Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Iowa, and Missouri.

5. The Southwestern Society shall consist of Kansas, Oklahoma, Texas, Arkansas, and Louisiana west of the Mississippi River.

6. The Rocky Mountain Society shall consist of Montana, Wyoming, Utah, Colorado, and New Mexico.

7. The Pacific Coast Society shall consist of California, Oregon, Washington, Arizona, Nevada, Idaho, Alaska, Hawaiian Islands, Philippine Islands, and British Columbia.

These proposed changes are to be voted on at the 1944 meeting.

MAX E. ERNST, Secretary

Research Section, American Association of Orthodontists

At the present time there is no opportunity afforded men interested in orthodontic research to meet together and discuss their problems. At the last meeting of the American Association of Orthodontists it was proposed that the Research Committee be empowered to arrange a portion of the program for the next annual meeting. The meeting will be held in Chicago, April 25, 26, and 27, 1944.

The program will consume half a day and will be restricted to ten- or fifteen-minute reports by men actively engaged in research in orthodontics, or in its allied fields. Time will be allowed for discussion of all presentations, in order that the greatest benefit may accrue to those participating. All institutions and all individuals are invited to request time.

For further information or time reservations on the programs address communication to ALLAN G. BRODIE, Chairman, Research Committee, A. A. O., 30 North Michigan Ave., Chicago.

American Board of Orthodontics

The 1944 meeting of the American Board of Orthodontics will be held at the Edgewater Beach Hotel, Chicago, Illinois, April 23 and 24. Orthodontists who desire to be certificated by the Board may obtain application blanks from the Secretary, Dr. Bernard G. deVries, 705 Medical Arts Building, Minneapolis, Minn.

Pacific Coast Society of Orthodontists

SOUTHERN SECTION

The Southern Section of the Pacific Coast Society of Orthodontists was held at the University Club, Los Angeles, Sept. 24, 1943.

Dr. McIntosh reported the latest information on the crippled children's act.

The essay of the evening was given by Dr. Hays Nance. He analyzed in detail the paper, "The Cuspid and Its Role in Retention," given at the previous meeting by Dr. Dallas McCauley. A few of the points made by Dr. Nance were:

a. Rotating maxillary molars into proper positions often shortens the distance between them and the cuspids and so makes it easier for the cusps of the back teeth to interdigitate.

b. Relapse in lower cuspid to cuspid region is sometimes due to the mandibular teeth being too far forward or with incorrect axial positions.

c. Too often relapse in the lower denture is attributed to discrepancy of tooth size. It really only appears that way. Improper relation of teeth to basal bone is the real cause and leads to relapse.

d. Too frequently the overbite is left too great.

e. The Hawley Arch Form is an aid in checking arch symmetry.

Dr. Nance then presented models and records of nineteen cases treated with the edgewise arch, two to five years after all mechanical retainers had been discontinued.

CENTRAL SECTION

A meeting of the Central Section of the Pacific Coast Society of Orthodontists was held Dec. 7, 1943, at the Alexander Hamilton Hotel, San Francisco.

The nominating committee gave a report naming their selections for 1944. Dr. Seymore B. Gray, Chairman; Dr. Frederick T. West, Secretary; and Dr. Fred Wolfsohn, Director.

Dr. Sanford Moose was the guest speaker. His subject, "Operation for Horizontal Bisection of Mandibular Rami in the Treatment of Extreme Mandibular Protrusion," was beautifully illustrated with colored movies, and of great interest to those present. Following this, the members inspected several clinical cases of recent operation.

Ernest Martin Setzer

The Central Section of the Pacific Coast Society of Orthodontists has been saddened by the loss of one of its beloved and esteemed members, a director of the Society, Ernest Setzer of Oakland, California.

Ernest Martin Setzer was born in 1895 in Amador City, California. He later moved to Lodi, California, where he attended high school, matriculating in the University of California College of Dentistry, and graduating in 1917.

He immediately entered the army and served in France, returning about six months after the armistice was signed. Upon his return he commenced the practice of general dentistry in Lodi. In 1922, he was accepted as a student in the Edward H. Angle College of Orthodontics in Pasadena, of which he was later to serve as President. He began the exclusive practice of orthodontics in Oakland in 1923. In 1926, he was appointed instructor in orthodontics at the University of California, serving subsequently as Associate Professor and Chairman of the department.

He was a Past President of the Alameda County District Dental Society which he represented on the executive council of the California State Dental Association. He was a member of the Xi Psi Phi fraternity, a director of the Lions Club of Oakland and of the Children's Home Society of California, and President of the Hillside Club of Berkeley.

He was particularly active in the affairs of the Central Section of the Pacific Coast Society of Orthodontists, taking a prominent part in its discussions as well as preparing clinical material for the instruction of its members.

He strived religiously for the maintenance of high ideals in our specialty and his general attitude and demeanor exemplified this. His personality was one of sincerity and dignity, yet with a joviality which typified his quality of good fellowship which made him popular among his fellows.

Southwestern Society of Orthodontists

The twenty-fourth annual meeting of the Southwestern Society of Orthodontists will be held in Shreveport, Louisiana, on Feb. 28 and 29, and March 1 and 2, 1944, with headquarters at the Washington-Youree Hotel.

JAMES O. BAILEY, Secretary-Treasurer

New York Society of Orthodontists

The spring meeting of the New York Society of Orthodontists will be held at the Waldorf-Astoria Hotel, New York, New York, on Monday and Tuesday, March 6 and 7, 1944.

NORMAN L. HILLYER, Secretary-Treasurer

Thomas P. Hinman Mid-Winter Clinic

The Thomas P. Hinman Mid-Winter Clinic will be held at the Municipal Auditorium, Atlanta, Ga., March 26, 27, 28, 1944.

OFFICERS OF ORTHODONTIC SOCIETIES*

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Secretary-Treasurer, Max E. Ernst - - - 1250 Lowry Medical Arts Bldg., St. Paul, Minn.
Public Relations Bureau Director, Dwight Anderson - 292 Madison Ave., New York, N. Y.

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Secretary-Treasurer, Earl F. Lussier - - - - - - - 450 Sutter St., San Francisco, Calif.

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Secretary-Treasurer, E. C. Lunsford - - - - - - - - 2742 Biscayne Blvd., Miami, Fla.

Southwestern Society of Orthodontists

President, Hamilton D. Harper - - - - - - - - Medical Arts Bldg., Shreveport, La.
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